

AUTOMOTIVE INDUSTRIES

INDEX TO VOLUME 63

(July 5 to December 27, 1930)

To facilitate reference this index to Volume 63 has been divided into three parts: an index to subjects, to companies and to authors, arranged in the order named in the following pages. Thus the three common methods used in seeking any particular article have been segregated to avoid the confusion which their intermingling permits.

AUTOMOTIVE INDUSTRIES

Editorial Index to Volume 63

Issues of July 5 to December 27, 1930, Inclusive

Subject Index—Below

Company Index—Page 8

Authors' Index—Page 11

Date	Pages
July 5.....	1-35
July 12.....	37-71
July 19.....	73-104
July 26.....	109-144
Aug. 2.....	145-179
Aug. 9.....	181-216
Aug. 16.....	217-252
Aug. 23.....	253-288
Aug. 30.....	289-324

Date	Pages
Sept. 6.....	325-360
Sept. 13.....	361-396
Sept. 20.....	397-432
Sept. 27.....	433-468
Oct. 4.....	469-504
Oct. 11.....	505-540
Oct. 18.....	541-600
Oct. 25.....	601-636
Nov. 1.....	637-672

Date	Pages
Nov. 8.....	673-708
Nov. 15.....	709-744
Nov. 22.....	745-780
Nov. 29.....	781-816
Dec. 6.....	817-852
Dec. 13.....	853-888
Dec. 20.....	889-924
Dec. 27.....	925-960

Index of SUBJECTS Discussed in Automotive Industries

A	
Accessories—See Parts	
Accidents	
Accident deaths decline	922
Maryland inspection completed	923
Advertising	
Plymouth plans radio programs	597
Associations	
American Automobile Association—Speed with safety	55
American Electroplaters Society—Gather in Washington	30
American Foundrymen's Association—Study volume changes in metals during casting	164
American Petroleum Institute—Fuel and lubricant research extended	298
A.P.I. elects officers	811
American Society Mechanical Engineers—Fuel injection research extended	15
Oil spray research suggests Diesel nozzle factors	56
Announces Chicago aero program	216
Cincinnati A. S. M. E. section names officers	247
A.S.M.E. discusses airplane safety	810
Australian Automobile Association—Australian motorists form association	883
British Institution of Mechanical Engineers—Simplicity of design favored air-cooled engines	264
Bureau of Standards—Engine performance at high altitudes	256
Fuel and lubricant research extended	298
Canadian Automobile Importers Protective Assn.—Opposes Canadian tariff	466
Department of Commerce—Twelve aircraft repair stations approved by Commerce Department	
World Motor Vehicles on Jan. 1, 1930, total 35,127,398 (map)	269
Dominion Bureau of Statistics—Canadian financing drops	466
German Transport Ministry—Germany plans highway net	460
Illinois Chamber of Commerce—Illinois sales poor	703
Institution of Mechanical Engineers—1000 hp. air-cooled engines will power future aircraft	307
Louisville Automobile Dealers Assn.—Louisville sales improve	703
Motor and Equipment Assn.—Develops own show plans	140
M.E.A. members expect upturn	243
Equipment Association to hold joint show	465
N.A.C.A.—Spray distribution in oil injection engines improved	221
National Automobile Chamber of Commerce—Macauley names Page and Graves	207
Dealers thwart waste with junking plan	253
Export leaders map world trade effort	289
Fuel and lubricant research extended	298

July output placed near 240,000 units	351
N.A.C.C. appoints Bryce	462
National Automobile Dealers Assn.—President resigns	137
National Commercial Body & Equipment Assn.—Commercial body makers complete organization	811
National Metal Congress—Metal congress has successful session	459
National Tire Dealers Assn.—Tire prices increase	703
Paris Automobile Show—Paris show losing American support	459
Society of Automotive Engineers—Name Warner secretary-manager	80
Plans national aeronautic meeting	178
Engine performance at high altitudes by Bureau of Standards	256
Fuel and lubricant research extended	298
W. B. Stout is caustic on subject of planes	315
Aviation industry shows open mind on changes	340
Airplane engine costs—reductions and reasons	342
Fuel specifications—problem of refiners	343
Duralumin shapes for aircraft use proposed	369
Program is ready for production meeting	461
Aviation	
Aeronautics branch announces granting certificates	357
Aircraft industry production in 1929	284
Aircraft output estimated	740
Airplane sales exceed output	501
All-metal amphibion plane built without spars or ribs	836
American Eagle has tiny plane	465
Automatic 'chute tested at Detroit	393
Auxiliary wind stabilizes Focke-Wulf plane	910
Aviation credit to continue	534
Aviation industry shows open mind on changes	340
Airplane output drops from 1929	173
A.S.M.E. announces Chicago aero program	216
Ban use of planes in races	670
British dirigible completes voyage	174
Canada shows aero progress	390
C.I.T. to finance Stearman sales	278
Clark Airplane Corp. formed	141
Completes Chilean plant	707
Cord Corp. plans largest air line	953
Curtiss tests XO-IG	706
Curtiss to revise Challenger	918
Dayton and Pheasant companies in merger	285
Delivers special plane	743
Detroit aircraft gains	597
Do-X to attempt Atlantic crossing	633
Duralumin shapes for aircraft use proposed	369
Endurance flight ends after breaking record	69
Fairchild opens new plant	393

Fog flying tests made in England	352
Ford's airplane work on 24-hr. daily basis	777
Ford plane record certified	743
Fuel injection research extended	15
Fuel specifications—problem of refiners	343
Government reports total airplanes manufactured	245
High-speed Diesel engine development	152
Issues 310 certificates of airworthiness	284
Juan de la Cierva sails	842
General Menoher dies	285
Morzik wins German light plane contest	322
National air races attract big crowds	315
National air races test many planes	351
Oklahoma restrained from taxing aero fuel	288
1000 hp. air-cooled engines will power future aircraft	307
Open Curtiss-Essex port	671
Plan giant flying boat	497
Plan long air route	708
P. O. Department seeks bids on air service to Europe	842
Pratt & Whitney production line	188
Produce 1684 planes in six months	207
"Rotor" principle is used in aeroplane	278
S.A.E. plans national aeronautic meeting	178
Sets speed record	497
Seven nations represented at French aeronautical exhibitions	933
Sixth Ford air tour ready to commence	385
Standard test basis for anti-knock rating	260
Stinson combines frame structure with fabric covering	366
Taylor has new plane	504
Tests aero engines in field	919
To test Stewart plane	886
Twelve aircraft repair stations approved by Commerce Department	259
Vega has larger capacity	844
Chance M. Vought dies	176
Warner gets order	534
Wins amateur air race	504
Wins Ford air trophy	539
Aircraft Engines	
Aircraft engine development in Italy	331
Airplane engine costs—reduction and reasons	342
All major parts contribute to failures	118
Argus develops 4-cylinder aero engine	94
Blower developed for Diesel aircraft engine	47
British dirigible completes voyage	174
Compression pressure induces engine knock	21
Engine performance at high altitudes by Bureau of Standards	256
Fiat develops Diesel aircraft engine	68
5-cylinder engine approved	633
New Napier engine	71
1000 hp. air-cooled engines will power future aircraft	307

Siemens radial air-cooled engine	4
Simplicity of design favored air-cooled engines	264
Six 1000 hp. engines power Caproni... 123	
Wright cyclone models for 1930	339

Aircraft Description	
Six 1000 hp. engines power Caproni.. 123	

Aircraft Parts and Accessories	
G. E. develops portable aircraft oil heater	203
Jaeger announces two chronofite models	529
Pioneer prices cut 20 per cent	633

Axles	
Axle end facilitates removal of wheel	658
New Logangear front axle lighter than forged type	689
Unsprung weight is greatly reduced...	472

B

Batteries	
USL makes "B" batteries	499

Bearings	
Needle bearings offer advantages	869

Bodies	
All-metal construction in building	
Austin bodies	452
Body design of Reo royale eight	442
Diamond neck auto bolt	183
Evolution theory applies to radiator shells	328
Radical changes conceived for future car	122
Synchronizing materials to assembly line	482
Ultra-streamlined car attains higher speeds	451

Book Reviews	
Aircraft accidents—N.A.C.C.	801
The Aluminum Industry; J. D. Edwards, F. C. Frary and Z. Jeffries; McGraw-Hill Co.	200
Budgeting Manufacturing Operations; Metropolitan Life Ins. Co.	909
Die Berechnung einer Zweitakt Dieselmachine; Dr. W. Haeder, Inf.; Richard Carl Schmidt & Co., Berlin... 200	
Die-Casting Practice; Marc Stern, M. E.; McGraw-Hill Book Co.	23
Diesel Power Plant Handbook; Julius Kuttner; Diesel Power	909
Digest of Motor Vehicle Lighting; Eng. Dept. Edison Lamp Wks., etc.; General Electric Co.	801
Direct advertising guide; J. C. Apsley; Dartnell Corp.	201
Engine Testing; Aeronautics Branch Department of Commerce	801
Five Years of Research in Industry; Clarence J. West; National Research Council, N. Y.	801
German Motor Manual; Dr. Ernest Valentin Verlag	169
Group Incentives; C. C. Balderston; U. of P. Press	200
Ingenious Mechanisms for Designers and Inventors; Franklin D. Jones; Industrial Press	381
The Involute Gear Simply Explained; Fellows Gear Shaper Co.	909
Kolben im Kraftfahrzeugbau; Ernst Mahle, Publisher	201
Lectures on Steel and Its Treatment; John F. Keller; American Society for Steel Treating	168
Les Applications des Rayons X; J. J. Trillat; Les Presses Universitaires de France	168
Life Expectancy of Physical Property; Edwin B. Kurtz; Ronald Press Co. ...	200
Mechanical Engineers' Handbook; Lionel S. Marks; McGraw-Hill Book Co.	169
New Departure Ball Bearings; New Departure Mfg. Co.	909
Nickel Alloy Steel Forgings; Technical Bulletin No. 17; International Nickel Co.	909
Oil—Its Conservation and Waste; James H. Westcott; Beacon Publishing Co.	936
Patents, Trademarks and Copyrights; Oscar A. Geier; Richards & Geier... 201	
Personenkraftwagen, Kraftomnibus und Lastkraftwagen; Dr. Emil Merkert; Julius Springer, Berlin	801
Petroleum Development and Technology, 1930; American Institute of Mining and Metallurgical Engineers... 380	
Principles of Engineering Economy; Eugene L. Grant; Ronald Press	381
Principles and Operation of Pioneer Instruments; Pioneer Instrument Co. ...	381
Proceedings of the Highway Research Board (ninth annual meeting)	380
Spezial—Last Automobile Band II—Kraftomnibusse; L. Betz; Richard Carl Schmidt & Co., Berlin	201
Techno-Diktionaer; Hubert Hermanns; published by author	909

Tool Engineering; O. B. Jones; Detroit School of Applied Science	909
The Volatility of Motor Fuels; George Granger Brown, Engineering Research Bulletin; University of Michigan	380
Weld Design and Production; Robert E. Kinkais; The Ronald Press Co.	346
Work Routing in Production; John Younger; The Ronald Press Co.	23

Brakes	
Invent electric brake for trucks and trailers	629
MacKenzie hydraulic brake has automatic pressure control	338

Buses	
Chrysler bus sales shifted	500
Dodge offers complete line of commercial vehicles	302
Light weight 21-pass. bus body on Standard Ford AA chassis	733
Mack has salon bus	500
Opposes bus regulation	851
Parker bus bill put back in committee	887
To consolidate bus lines	741
Twin coach rearranges entrance and exit plans	486
White adds two buses	812

Business Conditions	
Aircraft industry production in 1929..	284
America—forward march	944
Army to buy motor equipment soon..	637
Automobile business trend parallels general conditions	673
Automobile financing shows recession..	280
Automotive production as a general business index	835
Automotive sheet orders brighten steel outlook	668
Automotive steel orders being placed..	920
Col. Ayres sees slow recovery	880
Bicycles show gain over motorcycles..	278
Bottom reached in trade slump	670
British car sales off 6 per cent	287
Business betterment predicted by leaders	627
Business editors discuss outlook	744
Cadillac adds two types	920
Canadian car imports drop	245
Canadian production drops 41 per cent	247
Carolina sales slump	955
Car stocks lower, N.A.C.C. learns	743
Chicago collections increase	887
Cites car sales drop	537
Dealers' position is strengthened	469
De Luxe master with six body styles added to Peerless	904
Durant will build midget Mathis	271
De Vaux six—a new car for lower price field	899
Firmer steel market meets resistance..	536
Fusing of smaller manufacturers	434
Gasoline consumption by states shows increase in June	358
Government reports total airplanes manufactured	245
Hoover's census of distribution	372
How's business for August?	133
How's business going to be in September?	297
How's business going to be in October? 441	
How's business going to be in November	603
How's business going to be in December?	802
How's business going to be in January?	947
Industry has begun a term of stability	229
Leduc sees business upturn	635
Let's not be afraid of ghosts!	361
Louisville sales decrease	536
Louisville sales improve	703
Market unsteady on copper's gyrations	773
Massey plant steps up	536
Metal markets mark time now	884
Mooney finds European outlook brighter than believed	668
1930 closing with metal markets at subnormal level	925
November sales in Michigan drop	958
Parts and accessory group earnings..	181
Passenger car makers pile up earnings in six months	217
Passenger car production gages industry's future	853
Pearson sees normal conditions in offing	595
Price cuts stir industry	241
Quantity buying to fill definite needs..	505
Reeves says motors will help recovery	596
Service parts index shows improvement	809
Steel backlogs gain, prices show firmer	738
Steel market is dull as mills await action	629
Steel quotations set to end price shading	810
Truck industry fights onslaught of depression	38
Warner blames engineers for industry's condition	468
Wayne registrations drop 20 per cent..	249
Wayne registrations reflect Ford drop	888

C

Car Descriptions	
British offer 21 models with 4-speed silent trans.	601
Buick's 1931 line	114
Cadillac to market 12-cylinder car	173
Cadillac V-12 completes range	292
Changes at Olympia show are of smaller details	649
Chrysler eights replace Imperial and "77"	76
Chrysler Imperial prices	251
Centrifug straight-thru type compressed air cleaner	581
Chevrolet in ring with nine new models	690
Crossley introduces six-wheel chassis	496
Daimler introduces car with "self-changing" gearset	92
Durant has new six line	534
Durant will build midget Mathis	271
English Austin effects body and chassis changes	368
Ford deluxe model A delivery car	628
Ford has new body model	703
Franklin announces two lines with increased engine power	685
Gardner announces improved 1931 line	360
Generator and starter are separate units on Lincoln	866
Graham-Paige de luxe model	245
Hudson prices announced	810
Lincoln presents entirely new line	808
Major lines retained, minor changes in 1930 Packards	332
Majority of new features at Paris salon	619
More power in new Hudson and Essex lines	798
Morris announces cheaper Minor	956
Nash offers four distinctive engine designs	524
New carburetor designed for all needs except aircraft	659
New Plymouth roadster	282
New Rosengart announced	244
New Stutz models have "8" engine...	809
Peerless refines new 1931 models	463
16-cylinder Marmon shown at Chicago salon	742
Studebaker incorporates free-wheel transmissions	40
Stutz announces new line and stock plan	628
Triumph Commercial car to have 7 hp. engine	282
Vauxhall introduces new light six	501
Whippet announces improved models..	279
Carburetors	
Juhasz has new carburetor	957
New Tillotson carburetor made in sizes 945	
Wheeler-Schebler develops carburetor	938
Cleaners—Air and Oil	
Smith intake silencer gives warning for cleaning	529
Connecting Rods	
Linear inertia force of connecting rod 479	
Contests	
AAA changes contest plans	744
Arnold clinches AAA racing title	357
Campbell expected to try	812
Changes contest rules	705
Farmer clips lap mark at Langhorne..	68
Fewer pit stops in 1930 Indianapolis race	7
Italian cars sweep tourist trophy race	353
Kidston and Barnato win at LeMans..	70
Kliesrath is winner of speedboat cup..	278
May revive Bennett race	708
Monte Carlo rally set for January 21..	672
Morzik wins German light plane contest	322
National air races test many planes..	349
Plans speed record attempt	671
Sets outboard record	321
Speed with safety	55
Varzi wins at Monza	467
Wins Ford air trophy	539
Gar Wood sets mark	354
Conventions	
American Electroplaters gather in Washington	39
Annual show plays important part in economic stability	309
Attendance is off at Canada's show ..	390
Body makers to meet	535
Bus operators meet	466
Cleveland gets air races	956
The crowds are waiting—show prospects are bright	709
Equipment Association to hold joint show	465
High-speed Diesel engine development	152
Few French models are new at Paris automobile salon	527
M.F.A. develops own show plans	140
Metal congress has successful session..	459
Metal congress plans full technical schedule	316
Names Warner secretary-manager of S.A.E.	80
National air races attract big crowds..	315
1930 profits within 60% of peak years..	771
Paris show losing American support..	459
Program is ready for production meeting	461

Sacramento to have show	460	Kelsey Wheel declares	464	Oshkosh truck concern receiver dis-	672
Show drawing is held in Washington	534	Mack second quarter better	211	charged	181
W. B. Stout is caustic on subject of		Michigan sales drop for June	179	Parts and accessory group earnings ..	217
planes	315	Motor Products earn \$3.05	210	Pass. car makers pile up earnings in six	632
Corporate Changes		Motor Wheel Corp. earns \$1.15 a share	139	months	813
Advance-Rumley reorganization	627	Net profit drops for General Motors...	137	Pierce-Arrow on \$2 basis	705
Automotive leaders form new company	392	Packard earns 19 cents a share	177	Reo reports loss	463
Bosch companies plan pooling of efforts	703	Profits per car is lower	464	Retail financing holds high level	841
Bosch merger plans set	773	Studebaker profits drop	207	Seiberling reports loss; moves for sta-	888
Brunner-Winkle revamped	387	Timken Bearing earnings drop	142	bility	468
Chrysler forms Amplex unit	388	United reports profit	215	Snap-On reincorporates	702
Chrysler forms subsidiary	65	Vauxhall reports loss	177	Stewart-Warner earns 35 cents in quar-	780
Clark Airplane Corp. formed	141	Electrical Equipment—See Parts and Shop		ter	668
Complete plant consolidation	316	Equipment		Studebaker shares listed	539
Cord Corp. buys L. G. S. Mfg. Co.	468	Employment		New Stutz issue listed at Chicago....	780
Credit agencies unite	882	Austin adds workers	809	Stutz seeks more capital	885
Dayton and Pheasant companies in		Chevrolet moves to stabilize output ..	923	Timken Axle declares	737
merger	285	G. E. will assist workers	807	Timken Roller reports	705
Durant dealers told of change	918	Goodyear reduces force	319	Underwriters meet	883
Durant will build midget Mathis....	271	Hayes body plant on six-day week ...	807	United Aircraft reports	703
Export firm formed	283	Hudson adds workers	917	Use of more finance paper expected in	781
Faith succeeds Kingsley	773	Labor bureau reports factory turnover		'31	599
Ford and Isotta rumored in deal	277	rates	815	Waukesha nets \$450,579	843
Form new company	702	Lincoln adds employees	885	White Co. declares	852
Elcar-Lever merger announced	65	Michigan employment drops from Octo-		Wholesale financing of automobiles in	706
Fusing of smaller manufacturers	434	ber	919	Aug. decreased	321
G. M. buys Electro-Motive	742	Mullins employs more	919	Federal-Mogul Corp. to increase capital	598
German firms form truck unit	708	Murray body adds to schedules	812	American Forging declares	534
Glancy Malleable Corp. ownership is		October employment drops	811	Hupp passes dividend	701
shifted	886	Peerless adds workers	881	Increases capital stock	535
Graham denies merger plans	468	Tire plants recall men	884	Jordan stockholders asked to deposit..	628
Hein buys Mueller Works	778	See normal Jan. 1 at St. Louis plant..	807	Stutz announces new line and stock	
Henninger buys gear interests from		White cuts salaries; workers not af-	812	plan	
Durant	139	fect		Finishes	
Highway buys Martin trailer	958	Engines—See also Diesel Engines		Blue favored summer color	131
Industry awaits Durant reorganization	219	Argus develops 4-cylinder aero engine.	94	Fabrikoid decking material in grain	274
Karl-Keen is purchased	808	Developing new engines	701	effects	763
Manufacturers car heater	814	Influence of valve head design needs		Survey reveals variety of painting	
Michigan Steel considers merger	881	study	158	methods	
Muskegon merger operative now	812	Lycorning develops 8-cyl. truck engine	780	Financing	
Reliance purchases Cole	137	Lycorning Model UE marine engine....	194	Sees 1931 increase in car financing ..	771
Schultz purchases Toledo Tap	31	New Napier engine	71	8 per cent of used cars accounts for	727
S.P.A. Truck Corp. formed	35	New series of Hercules engines built in		70 per cent of trade-in losses	666
Spicer buys Universal	31	5 sizes	948	End of compulsory insurance seen ..	466
Stoll Co. is reorganized	780	Sleeve valve engine developed	49	Foreign Trade	
Thermoid acquires option	808	Transmissions must have reaction on		Admits airplane parts free	672
Two Durant units may split-off	879	frame	90	All indications point to larger auto	745
Wickwire plans reorganization	812	Wright-Tuttle reorganizes	634	trade	928
Wisconsin Aircraft sold	918	Exports—See Foreign Trade		An intelligent program for future for-	955
Wright Tuttle reorganizes	634	Financial		ign territory	646
Crankshafts		A. E. C. to increase capital	737	Argentina jumps duty on trucks	477
Cracks in airplane engine crankshafts	374	Ajax omits interest	849	August exports gain in number	739
Crankshaft machining requires divers-		Auburn reports 97c share profit	704	American cars in Australia	812
ity of operations	609	Auto-Lite declares	849	Australia enters leanest period	922
Cylinder Blocks		Auto-Lite earns \$4.51 on common	701	Begins campaign for foreign sales ..	958
High heat expansion cast iron devel-		Auto-Lite position better	849	British tire exports gain	737
oped for cyl. linings	656	Automotive issues valued in billions..	924	Canadian cars find new outlet	958
D		Bendix Corp. earns three cents a share	740	Canadian exports drop	737
Design—General Trends		Bendix reports earnings down	636	Canadian exports improve slightly ..	394
Aerodynamics is theme of trend at Chi-		Borg-Warner reports profit	701	association to foster tariff	634
cago custom salon	679	Budd units report	704	Canadian motor exports gaining	495
Aviation industry shows open mind on		Budd Wheel declares	917	Chrysler closes its German plant	502
changes	340	Cash fortifies most companies approach-		Doubling Italian tariff not reprisal ..	500
Cooling and stability in car with rear-		ing 1931	817	Exports, imports and reimports of auto	632
mounted powerplant	491	Checker reduces dividend	882	Exports, imports and reimports of auto	812
Evolution theory applies to radiator		Chrysler issues statement	880	Export leaders map world trade effort	289
shells	328	Commercial earns 53 cents	704	Fiat buys Pescara	955
Independent suspension on crank axles	755	Curtiss reports loss	771	Foreign shipments increase	500
Radical changes conceived for future		duPont reports \$1.05 net	632	Ford and Isotta rumored in deal	277
car	122	duPont declares \$1.00	772	Ford abandons Italian project	924
Sentinel eight-wheel steam truck	449	Federal-Mogul Corp. to increase capital	321	Ford plant at Cologne includes manu-	347
Steering head design for independent		Federal Screw reports loss	811	factures	326
springing	436	Financing of wholesale car sales in-		Heightened insular competition for	487
Swinging axle type of independent		creases	145	American cars	599
springing	640	Firestone declares regular dividend..	959	Importer plans visit	284
Test turbulence effect on compression	446	Firestone reports profit; sales drop 17		Issues 310 certificates of airworthiness	920
Ultra-streamlined car attains higher		per cent	886	Japan plans truck subsidy	880
speeds	451	Fokker aircraft declares	636	Mexico imports maintain volume	597
Swinging axle type of independent		Ford of Canada declares	777	Mukden truck plant progressing	955
springing	640	General Motors earns \$2.85 on common		N.S.P.A. ethics code is sent to export	635
Diesel Engines		stock	705	houses	466
Blower developed for Diesel aircraft en-		G.M.A.C. reduces rates	807	Opposes Canadian tariff	459
gine	47	G. M. declares dividend	741	Paris show losing American support..	634
Fiat develops Diesel aircraft engine....	68	General Tire earns and pays dividend.	885	Pierce-Arrow exports gain	109
Fuel oil must have a low pour point....	892	Goodrich listing approved	599	Tariff commission to weigh inequities.	74
High-speed Diesel engine development	152	Hayes body reports loss	739	Taxes hamper Australian dealers	439
High speed oil engine development		Hercules and Servel to expand plant ..	467	Tells Overseas Club competition is	597
(Forum)	97	Hercules reports profit	845	keen	958
Hill Diesel engine makes run in truck.	391	Hudson reports earnings	665	To begin deliveries to Russia	38
Oil engine terminology	375	Hupp reports loss	628	Truck industry fights onslaught of de-	846
Oil injection engine	162	Jordan plan assured	917	Truck and replacement parts sales ..	779
Oil spray research suggests Diesel noz-		Jordan reports loss	843	U. S. Automotive exports drop	395
zle factors	56	Kelsey estimates earnings	739	United States cars lead at Brussels..	992
Spray distribution in oil injection en-		Kinner reports loss	733	Fuels	
gines improved	221	Mack reduces dividend	881	Annual meeting of A. P. I.	765
Distribution—See Marketing		Marmon signs for C. I. T. wholesale		British building automotive heavy oil	860
Drills—See Machine Tools		finance plan	807		
Hercules major drills	205	Martin trailer gets receiver	319		
Drives—See Transmissions		McCord reports profit	740		
Earnings		Meteor Co. declares	773		
Airplane output drops from 1929	173	Moon Motor Car Co. gets temporary re-			
Briggs Mfg. Co. reports profit	144	ceiver	773		
Brockway earnings reach \$212,336	247	Motor Products declares	843		
Federal Forge declares	464	Motor stocks decline	497		
General Motors gains net working cap-		Motor stocks decline	706		
ital	213	Motor Wheel reports profit	701		
Graham reports loss (June '30)	173	Motor Wheel declares	740		
Hudson earns 67c a share	137	Murray Rubber gets receiver	808		
Hupp earnings drop in second quarter	137	Murray Rubber cuts expenses	960		
Kelsey-Hayes earns \$2.24	176	Nash earnings are 65 cents a share ..	535		
		National Standard earns \$2.55	704		
		New Brunswick revenue up	960		
		New Era files petition	852		

- California leads state gasoline tax 93
 Compression pressure induces engine knock 21
 Detonation characteristics of some paraffin hydrocarbons 758
 Effect of dilution with spent gases on detonation 694
 Estimates flying fuel consumption 851
 Fuel consumption 787
 Fuel injection research extended 15
 Fuel oil must have a low pour point .. 892
 Fuel specifications—problem of refiners 343
 Gasoline consumption passed billion gallon mark 502
 Gasoline consumption in August was less than July 707
 Gasoline consumption in Sept. increased 844
 Gasoline exports increase 849
 Gasoline sales jump 537
 Gasoline stocks increase 816
 High compression engine 898
 Hill engine injects fuel 786
 How to specify fuel oil for Diesel engines 695
 Hydrogenation process adopted 197
 Oil spray research suggests Diesel nozzle factors 56
 Oxygen concentration research developments 622
 Peru orders coloration of gasoline to block fraud 633
 Prairie quits a market 888
 Qualities desirable in motor fuel defined 731
 Radial engine with decompression feature 784
 Specialization will help to overcome production cost 820
 Spray distribution in oil injection engines improved 221
 Std. test basis for anti-knock rating.. 260
 Tests establish seizing temperature of lubricants 661
 Test turbulence effect on compression 446
 Value of A.S.T.M. fuel curve is given 82
- G**
- Gages—See Instruments
 Cincinnati universal press brake gages 62
- Gasoline—See Fuels
- Gears
 Daimler introduces car with self-changing gearset 92
 Elimination of gear noises 375
 Gleason Works 3 in. bevel gear testing machine 349
 Headlamps controlled through steering gear 96
 Practice of calculating gear tooth strength erroneous 508
 Voisin magnetically-controlled two-speed gear 697
- Government Agencies
 Aeronautics Branch, Dept. of Commerce
 All major parts contribute to failures 118
 Bureau of Standards
 Study changes in metals during casting 164
 Dept. of Commerce
 Car fatalities show increase 173
 Gazley, LaSha rejoin aeronautics branch 66
 National Advisory Committee for Aeronautics (N.A.C.A.)
 Fuel injection research extended... 15
 Fuel spray penetration 165
 Naval Bureau of Aeronautics
 Compression pressure induces engine knock 21
 U. S. Dept. of Commerce
 June vehicle output 138
- Grinders
 Blount wet tool grinder 312
 Breaking speeds of grinding wheels 756
 Centerless grinder with production of 90 767
 Diamond lapping machine 457
 Hammond heavy-duty grinder 62
 "Hisey" heavy duty portable grinders 348
 Portable air wire brush and grinder.. 99
 Spherical work ground by the centerless method 205
 Wells thread grinder for taps and gages 349
- H**
- Heat Treatment—See Metallurgy
- Highways—See Roads
- I**
- Illumination
 Headlamps controlled through steering gear 96
- Imports—See Foreign Trade
- Industrial Relations
 Inspection
 Inspection—See Instruments, Machine Tools
 Production Methods
 All major parts contribute to failures 118
 Dodge inspects piston rings at receiving dock 239
- Gleason spur-gear testing machine ... 583
 Gleason Works 3 in. bevel gear testing machine 349
 Gleason No. 13 Universal gear testing machine 950
 Guggenheim school of aeronautics 871
 Hindman tolerance system on interchangeability of parts 232
 Standard temperatures required for parts inspection 347
 Steering gear testing auto-check..... 875
- Installment Selling—See Financing
- Instruments
 New aero compass 876
 Alpha micrometer rolling parallel ruler 581
 B & S series of fillet and radius gages 383
 Brown indicating pyrometer controller 624
 Elasticometer spring testing machine 624
 Federal dial thickness gage 575
 Improved model E Sykes gear tooth comparator 568
 Leitz micro-metallograph 579
 Meriam flow meter for radiator testing 135
 New Toledo compression spring testing & selecting gage 663
 Uehling self-contact potentiometer pyrometer 382
- Insurance—See Financing
 Compulsory liability insurance law in England 267
- J**
- Junking
 Asks junking depots 708
 Dealers thwart waste with junking plan 253
 Ford salvages over 30,000 used cars... 636
- L**
- Labor Relations
 Cadillac executive cites wage incentive desire 670
 Continental assists workers 883
 General Motors Corp. plans no salary cut 737
- Lacquers—See Finishes
- Lathes
 Baird horizontal six-spindle lathe.... 529
 Brake drum flywheel turning lathe.... 170
 Gisholt universal ram type turret lathe 572
 LeBlond No. 5 automatic pin finishing turning lathe 582
 Model AA Monarch high speed lathe.. 734
 Monarch model "H" lathe has special headstock 571
 Newton unit head miller 735
 South Bend tool room precision lathe. 589
 Westcott bevel-gear universal lathe chucks 586
- Legislation
 Britain may seek new car tax basis .. 628
 California leads state gasoline tax ... 93
 Canada taxes steel dies 460
 Doubling Italian tariff not reprisal... 52
 Compulsory liability insurance law in England 267
 Discuss uniform aeronautic laws 915
 Gasoline taxes reach 3.39 cent average 704
 Hunt talks patents to Phila. Section.. 881
 I. C. C. examiners begin series of hearings 776
 Iowa revenue increases 887
 Legislatures plan tax increases 393
 Legislatures plan higher gasoline taxes 849
 Maryland revenue rises 881
 May require safety glass 924
 Motor bus hearings in St. Louis Nov. 17 635
 Oklahoma restrained from taxing aero fuel 288
 Oklahoma revenue sets new record ... 814
 Opposes bus regulation 851
 Parker bus bill first step, says I.C.C. 852
 Parker bus bill put back in committee 887
 Prospect of better car sales in South America 109
 Quebec revenue increases 809
 South Carolina gas tax 596
 Tariff commission to weigh inequities 74
 Tennessee revenue rises 740
 Texas collects \$32,000,000 632
 Twenty-one states require drivers' licenses 908
 Upholds county sales levy 809
- Lubrication
 Bijur chassis lubrication system now automatic 759
 Consistometer applicable to grease and oil 489
 Fuel and lubricant research extended. 298
- M**
- Machine Tools—See also Grinders; Tools, small; Tools, portable; Inspection; Welding; Shop Equipment; Mechanical Handling
 Barber-Colman high production hob .. 204
 B. & S. high speed automatic screw machines 26
 Bliss double crank press with adjustable bed 456
 Brake drum flywheel turning lathe.... 170
 Brown & Sharpe automatic screw machine 171
- Compound spot-facing tool 205
 Diamond lapping machine 457
 Federal inclined punch press 27
 Fellows 6A-type gear shaper has 3-in. stroke 171
 Frew duplex horizontal drillers 98
 Grob continuous-type filing machine.. 348
 Hammond heavy-duty grinder 62
 Hanna differential case riveters 383
 Heady pillar type percussion press ... 204
 Hopkins air-operated arbor press line. 63
 Hydraulic feed grinder 203
 Improved automatic screw chasing attachment 382
 Improved Bliss single crank toggle presses 202
 Landis bolt factory threader improved 204
 Modern diamond lapping machine 204
 Moline hydraulic lapper and honing machine 170
 Natco single-spindle drillers 62
 Niagara slip roll for forming sheet metal 135
 Poishing wheel set-up machine 26
 Purchase of machine tools justified ... 565
 Rear axle housings automatically arc welded 27
 Straight-side power press 135
 Style KL geometric self-opening die heads 313
 Tabor draw molding machine 348
 Tool revolving automatic chucking machine 171
 Variable speed drive on Kent-Owens miller 312
- Management
 Chrysler holds sales schools 704
 Oakland's factory overhead reduced .. 127
 Record attendance hears six papers in S.A.E. meetings 551
 Unusual plant methods meet definite shipping schedules 555
- Marketing
 AC sales equal last year's 849
 Autocar books \$1,000,000 order from municipality 883
 Bendix starts service chain 813
 Chrysler ships 7992 888
 Cutler-Hammer sales steady 595
 Dealers' position is strengthened 469
 Dodge truck sales gain 851
 Financing of wholesale car sales increases 145
 Ford's percentage of total sales dropping 595
 Franklin sales increase 778
 General Motors dealers reduce car inventories 776
 General Motors dealers sell 75,805 autos in Sept. 628
 General Motors sales exceed output again 921
 Goodrich sales increase 600
 Graham sales up 597
 Imperial prices raised, Chrysler ships 12,812 733
 Lincoln sales increase 850
 Manufacturers offering doubled power 2
 Michigan sales gain 628
 Michigan sales slump heavily 813
 Moller gets taxicab order 922
 More accurate and sensitive statistics 889
 October output totaled 150,044 815
 Ohio sales off 600
 Ohio sales drop 744
 Price cuts stir industry 241
 Seasonal variation in sales narrows in twenty years 24
 September sales show tendency to recovery 665
 Service sales boost M.E.A. parts index 627
 Standardized trade customs 199
 Thompson books orders 812
 Wayne County sales halved 741
- Mechanical Handling
 Mechanical Handling—See also Production Methods
- Meetings—See Conventions
- Merchandising
 Hoffman stresses value of merchandising service 635
 Plymouth includes independent shops. 778
- Metallurgy
 Aluminum research program extended 13
 Failure of steel gears due to fatigue, tests show 491
 Hump method for heat-treating 159
 Improvement in electroplating quality needed 561
 May raise Lithium to commercial status 134
 Mechanical properties of Bethalton Steel 198
 Metal Congress has successful session 459
 Phosphorus content of cast iron 718
 Recent developments in nitriding of steel 722
 Statistical method for automotive unit tests 518
 Study changes in metals during casting 164
 Uniform heating necessary in nitriding 752
- Motorcycles
 Big Twin motorcycles priced up to \$340 224
 Irving to design cycle 883
 Motorcycles follow automobile trend at Paris show 766

O

Oils and Oiling—See Lubrication

P

Paints—See Finishes

Parts and Accessory Descriptions

AC develops intake snencer device	88
AC metric spark plugs	874
American Bosch spark plug with Masilite insulator	768
Autocentric tie-rod	838
Automatic chute tested at Detroit	393
Automotive F. & B. concealed hood-latch	17
Baker wheel ball-bearing tie-rod for steering gears	370
Balcrank compensating concentric tie-rod	876
Bohn connecting rod cap	891
Bolt-die heads Beaver ratchet	382
Borg & Beck clutch with vibration damper	312
Breeze spark plug shield	913
Burgess exhaust muffler	951
Burgess intake silencer	912
Cuno electric windshield warmer	699
Duralumin shapes for aircraft use proposed	369
Evans develops rotary fuel pump	275
Fostoria luggage carrier	839
Gits precision oil seals	950
New Hannum steering gear	913
Harley-Davidson roller bearing design	196
Heavy duty window regulator	625
Hollow stem valves used in record-breaking engine	867
Hunt-Spiller develops gun-iron brake drum	662
Hurley-Townsend to make cooled plug intake muffler on new Buicks	160
Kane pneumatic-strut airplane landing gear	457
Logan has new axle	538
New Long clutch for trucks	662
Moto Meter develops hydraulic shock absorber	157
Ohmer offers new taxi register	769
Olds supplying new heater	466
Parts and accessory group earnings	181
Pedrick oil-control ring	769
Perfect Circle oil-regulating ring	275
"Perfect" oil and grease retainer	875
Plans accessory production	959
Plans new transmission	919
Powell pure air heaters	698
Promal drive and conveyor chain	63
Quigley "Q-Seal" expansive compound	529
Radiator makers merge	953
Rzeppa universal joint	83
The selection of automotive clutches (Forum)	18
Siewek positive action fixture lock	570
SKF develops new type felt-seal ball bearing	98
Spark plug designed to eliminate pre-ignition	377
Thompson valve guides	625
Tungtite compression rings	203
Vacuum multi-oil ring made in halves	864
Weber trailer-coupling hook	274
Weiss high-angle universal joint	313

Personnel

Abbott is promoted	628
Ahrens promoted by Cadillac	667
Allen becomes secretary	738
Altrees resigns from Bosch Magneto Corp.	667
F. W. Ayres new vice-president of Moon	281
J. E. Barrett dies	954
Beasley succeeds Evans	701
British organizer is working in New Zealand	670
Brockway appoints Kerr	702
Brockway elects Black	737
Don L. Brown is president of Pratt & Whitney	630
Buhl names Lanphier	319
Burbank succeeds O'Brien	738
Cadillac appoints Thompson	281
Chevrolet names Holler	462
Chevrolet shifts four	496
Christopher succeeds Lefebvre at Oakland	920
Chrysler appoints Hamilton	66
Chrysler appoints Moock to head used car sales	69
Chrysler names Rupprecht	318
Collins to distribute Reos in Chicago area	629
Collins was Cadillac head, now distributes Reo	667
Continental board chairman, R. W. Judson, resigns	496
Continental elects Beall	702
Continental names Brown	954
Copelin is promoted	465
Glenn H. Curtiss dies in Buffalo	706
DiVco names McKeough	738
Dodge realligns sales executive staff	66
George E. Doherty dies	395
Herbert H. Dow dies	629
Durant appoints Nutt	462
Durant will build midgeet Mathis	271
Charles M. Eddy killed	737

Elcar appoints Haynes	318
George R. Elder dies	849
Andrew J. Eldred has joined Campbell Ewald Co.	630
England joins Houdaille	954
Fisher heads committee	738
F. J. Fisher returns	667
Ford appoints Seyffer	315
France decorates A. C. Pearson	243
G.M.A.C. names Leach	319
General Motors men are shifted	318
General Motors shifts export division men	140
Gieffer is district manager	667
Gittins heads Case Board	281
Glancy joins Detroit staff of G. M. C.	598
Goodrich promotes Morris	672
Goodyear reduces force	319
Governor names Mayo	848
Graham succeeds Smith	848
Gregory Flynn resigns	630
R. A. Griffith dies	671
Groehn returns to Clayton	848
Daniel Guggenheim, philanthropist, dies	495
Frank L. Hamby at Olympia	630
Frank I. Harding dies	920
Hayes promotes Pease	501
Harold W. Hayes dies	847
Heads Oakland division	738
Col. Henderson heads N. A. T.	627
Hollowell heads Verville sales	281
Arthur S. Holmes dies	284
Hupp names Eldredge	462
Ivey succeeds Coyle	738
Jackson elects Carpenter	702
Joins U. S. Rubber	667
C. C. "Casey" Jones promoted by Curtiss-Wright	630
Richard P. Joy dies	917
Judson leaves Continental	496
Julian heads rubber 'change	467
Julian heads rubber exchange	627
Knoble is named	954
George Kohlenberger heads radio sales	630
Krieger returns to Durant	318
Kreis joins Studebaker	282
Lamont is promoted	598
Lamont sees improvement	461
Lamson & Sessions elects	630
Lawrence forms company	460
Lawrence is honored	462
Ledwinka returns	630
Lincoln promotes Stewart	667
Macfee resigns from N.S.P.A.	667
F. S. Macourek retires from business	630
Marmon appoints Noland	66
Martin trailer gets receiver	319
Matheson quits Chrysler; joins Graham-Palge staff	667
Dr. D. J. McAdam, Jr., is promoted	630
McAneeny resumes Hudson manager-ship	632
McNaughton resigns	392
Gen. Menoher dies	285
Messinger is elected	667
Messinger to head Oliver	920
George P. Miller dies	851
Moock joins Chrysler	282
N.A.C.C. appoints Bryce	462
N.A.C.C. appoints Butler	738
Nutt joins Borg & Beck	738
Oakland names Huber and Burns	702
Oakland shifts Zetterholm, Bathrick & Combs	496
J. E. O'Keef dies	671
Olberg forms own company	496
Maurice Olley joins Cadillac	772
John B. O'Neill promoted by General Spring	630
Ottom leaves Moto Meter	281
Packard advances Gilroy	771
Palmer heads district	667
Pierce names Nicodemus	848
Pneumatic elects Pendock	667
Pratt & Whitney promotes Gilpin	848
Reuter heads Oakland	598
Rockelmann appointed president of Plymouth Corp.	67
Rosenfeld is distributor	667
Rullison heads Tillotson engineers	281
Scott is promoted	630
Shorter heads Durant's sales	283
Shorter leaves Durant	841
Sicklesteel joins Muncie	954
Sloan is Chrysler director	281
Smith succeeds Fletcher	848
Standard Body elects	920
Steel treaters elect Watson	462
H. M. Stephens Reo distributor	630
Stephens heads Reo division	667
Stickney joins Judkins	702
Studebaker names Savage	880
Captain Sullivan dies	705
Two new distributors appointed by Hercules	667
United elects Mead	880
Varzi wins at Monza	467
Warner blames engineers for industry's condition	468
J. A. C. Warner halls progress in methods	495
Warriner joins Master	281
James A. Whitcomb dies	742
White elects Bean	920
White shifts Holiday	738
J. H. Whittaker resigns	630
Willis to be guest of club	461

Wisconsin names Ketcham	702
Woolson meets Canadian section, presents paper	772
Young is appointed Peerless sales head	283

Pistons

Inspecting Studebaker pistons	169
Nash uses ingenious inspection plan	86

Plant Expansion

Building plant addition	537
Chevrolet begins truck body plan	915
Chevrolet establishes truck body assembly	882
Chevrolet purchases Martin-Parry plant	595
Establishes San Francisco plant	881
Fishers plan new building	503
Ford opens new plant	740
Ford plans Mexican plant	809
Ford plans new Seattle plant	918
Ford plant under way	669
Ford spending \$60,000,000	773
Olsen plans addition	744
Packard Cable installing plant	888
Pittsburgh Glass buys site	668
Rheem plans new plant	703
Thomas adds plant	669
Williams plans addition	738

Polishing—See Finishes

Prices—See also Marketing

Austin increases coupe price	598
New Chevrolet prices	742
Chrysler imperial prices	251
Chrysler reduces price on "70" line	142
Fordson price reduced	597
Hudson prices lowest in car's long history	777
Imperial prices raised, Chrysler ships 12,812	738
LaFrance-Republic cuts price	465
Manufacturers offering doubled power	2
Nash advertises delivered prices	777

Production—See also Business Conditions

Aircraft industry production in 1929	284
Airplane output drops from 1929	173
All-metal construction in building Austin bodies	452
August output placed at 223,046 vehicles	466
Austin roadster on line	882
Autocar at normal	919
Autogiro production begins	808
Automatic tooling for lathes	345
Buick ships 7177 units	845
Cadillac September registrations 3496	599
Canadian production slumps 43 per cent	850
Canadian values higher	814
Census shows gain in use of rubber	957
Chevrolet exceeds November, 1929	841
Chrysler increases schedules	743
Crankshaft machining requires diversity of operations	609
Economic principles injected into annual prod. meeting	605
Equipment index drop for November	956
Flexible production system holds Plymouth inventory	713
Ford expects to build 30,000,000 Model A's	665
Ford output 51,923	884
Ford produces 78,347	737
Ford produces 66,612 in Canada	849
Ford resumes production	207
FWD resumes 10-hr. schedule	885
Future production activity forming in economic mold	541
Gadsden plant to step-up	918
General Tire plans increased output	598
German tire exports drop	957
Hudson increases schedule	842
Hudson on five-day schedule	704
July output	207
July output placed near 240,100 units	351
Low-cost demand met by improvements in milling methods	334
Manufacturers offering double power	2
Marmon shipments gain	539
Martin midgeet car production begins	879
Mathis ready Jan. 1; show space held	807
Motor vehicle and trailer output value	916
November production estimated at 146,185	843
October production placed at 156,743	741
Offset flash welding die solves problem	749
Output estimate reduced	887
Production trend indicates an improvement	896
Record attendance hears six papers at S.A.E. Meetings	551
Rigid production economies attained building Reo Roy, 8	512
September production off	533
Stamp parts valued	917
Steel mills in Detroit base sales on time savings	362
Submerged honing for cylinder bores	623
Successful use of cemented tungsten carbide	544
Survey reveals variety of painting methods	762
Unusual plant methods meet definite shipping schedules	555
Value of 1929 automotive products increased	814

Production Methods—See also Mechanical Handling; Inspection; Welding

Attainment of uniform color standards	524
Diamond neck auto bolt	183
Inspection fixture certifies accuracy	323
Nash inspection saves replacement costs	10
Nash uses ingenious inspection plan	86
Peerless hydraulic spring press	6
Pratt & Whitney production line	188
Press operations of Ford radiator shells	44
Refinements in Budd stamping practice	900
Regularization of output leads other topics	856
Research needed for rustless steel	148
Synchronizing materials to assembly line	482
Trim shop is automatically scheduled	789
Wear is reduced by machine lapped parts	906

R**Racing—See Contests****Registrations**

August registrations drop	459
British car sales off 6 per cent	287
Ceylon registrations reported increased	842
German registrations show slow gain	461
Michigan sales drop in August	462
Motorboat registrations show increase	324
Quebec registrations increase	504
Tennessee registrations up	635

Research

All major parts contribute to failures	118
Aluminum research program extended	13
Coiled versus leaf springs	692
Constants for air orifices checked	85
Diamond neck auto bolt	183
Effect of the center of gravity	833
Effect of side wind on velocity	939
Engine performance at high altitudes, by Bureau of Standards	256
Fuel injection research extended	15
Fuel and lubricant research extended	298
Fuel spray penetration	165
Hydrogen uses told to chemists	391
Leeds & Northrup humidity recorder	99
Oil spray research suggests Diesel nozzle factors	56
Radical changes conceived for future car	122
Research needed for rustless steel	148
"Rotor" principle is used in aeroplane	278
Spray distribution in oil injection engines improved	221
Standard test basis for anti-knock rating	260
Study changes in metals during casting	164
Test turbulence effect on compression	446
Value of A.S.T.M. fuel curve is given	82

Rims—See Wheels**Roads**

Coordination stressed at highway congress	533
\$800,000,000 spent by counties for roads	251
Germany plans highway net	460
Get \$80,000,000 for highway work	960
Highway engineers see all in whirlwind tour of South	723
Highway men to meet	708
Highway research board will meet in Washington	743
Illinois extends highways	744
Increased Federal air road appropriations cited	815
International tunnel opened	705
Iowa spends more on roads	316
Iowa improves its roads	744
More roads built with Federal aid	741
No "washboard" formed in roads with low-pressure tires	240
Steel base proposed for highway as test	279
To open elevated road	701
World ambassadors of highways meet	665

Rubber

British tire exports drop	924
Crude rubber hits bottom	499
Crude rubber continues low	633
Crude rubber consumption	635
Firestone to enter Argentine	740
Fisk may reorganize	885
German tire exports gain	773
Inventories decline on pneumatic tires	740
Julian heads rubber exchange	627
New Jersey rubber manufacturers meet in Trenton	812
No "washboard" formed in roads with low-pressure tires	240
Rubber consumption estimated	924
Rubber consumption rises	814
Rubber output reported	956
Rubber output valued	852
Seiberling completes British connection	460
Soviet to grow rubber	600
Tire dealers plan annual convention	498
Tire dealers reduce stocks of castings	813
Tire output for 6 mos. valued at \$275,114,000	321
Tire prices increase	703
Tire shortage is predicted	672
To manufacture new tube	843
U. S. production reaches 222,931 in Sept.	671
U. S. Rubber changes its dealer policies	816

S**Sales—See Marketing****Shock Absorbers**

New suspension system abandons use of steel springs	721
---	-----

Shop Equipment

American foundry electric heater	275
American three-hook lo-hed body hoist	574
B. & S. roller feed and riming mechanism	875
Barber-Colman high-production hob	204
Barnes all-gear drilling and tapping machine	570
Barrett multiple-lift truck	313
Bath cylinder gage	761
Besly No. 49-53 in. wet and dry grinder	568
Black & Decker grinder for cemented tungsten carbide	950
Bliss double crank press with adjustable bed	456
Bliss long stroke reducing press	874
Bradford automatic drill head	698
Bradford unit-built special installation	580
Brownie coolant pump	63
B & S Standard index bases	98
Brunner heavy-duty water-cooled compressor	579
The Burgess electric bearing tester	492
Bury class 2V motor-driven air compressor	585
A. C. Campbell nibbling machine	492
Cincinnati shaper 18 ft. press brake	567
Cincinnati shaper 300-ton all-steel press	578
Clark power-driven tiering twin veyor	202
Clark stock chaser	662
Clipper speed lacer	568
Compound spot-facing tool	205
Crescent electric power lift truck	493
Crown rubber covered plating racks	135
Crown spiral gear drive for burnishing machines	531
Curtis air hoist	570
Cutler - Hammer three-position pilot switch	202
Defco drop-forged conveyor chain	912
Diamond high-speed surface grinder	493
Dyr-sys gas-fired compact heater	575
Eastern H & G light-duty die head	625
Electric-lift trucks	734
Erie motor-driven board drop hammer	568
Ex-Cell-O precision diamond boring machine	588
Feed-matic thru-feed and in-feed hoppers	531
Frew duplex horizontal drill	98
G.E. Atomic Hydrogen welding machine	493
G.E. control for reversing small motors	531
G.E. float switch with mercury contacts	528
G.E. air-draw furnace	456
G.E. quartz rod thermostat for metal-melting pots	805
G.E. reversing motors	913
Gisholt hydraulically equalized chuck jaws	951
Gleason testing and lapping machine	587
Hall Model P production hone and Model SP for limited production	569
Hammond Select-O speed grinder	805
Heald heavy-duty internal grinding machine	573
Heavy-duty wide grinders	577
Hicycle portable electric tools	576
High-speed drilling machine improved	735
High-temperature furnace with reducing atmosphere	531
Hisey improves heavy-duty stand grinders	663
Hump method for heat-treating	159
Improved Bliss single-crank toggle presses	579
Independent spindle buffers	768
Intermediate size Cowdrey brake tester	572
Kempsmith improves vertical max-miller milling machines	586
Kurth & Knapp hot-air draw and tempering furnace	585
Landis pipe threading and cutting machine	567
Langeller horizontal duplex milling machine	573
Leeds & Northrup humidity recorder	99
Lincoln totally inclosed fan-cooled induction motor	951
Machine drills simultaneously holes of 13 sizes	859
Madison-Kipp air grinders	838
Madison-Kipp die-casting machine	804
Mathews heavy-duty roller conveyor	698
Model MBH comtorgage, high-gear type	578
Multiple-speed swing grinder	876
Multiple turning machine	874
Murchev precision threading machine	569
Namco stationary die	735
Natco horizontal hydraulic machine	586
Natco two-way horizontal hydraulic machine	569
New Bliss trimmer	769
Niagara power-driven combination machine	699
No. 44 Little Giant pneumatic drills	528
Niagara slip roll for forming sheet metal	135
No. 78 hydraulic super surface grinder	804
Oilgear horizontal broaching machine	768

Oilgear twin twelve broaching machine	572
P. & J. Ekomatic nut machine	588
Pangborn rubber sand-blast helmet	912
Porter-Cable offers Syracuse belt sander	492
Power stacker	912
Pratt & Whitney hydraulic gear grinder	584
Precision gaging with G.E. unit	14
Promal drive and conveyor chain	63
Putnam develops plate and sheet slitter	582
Putnam rod boring and drilling machine	530
Recent installation of DeVlieg supermill	587
Rockford multiple-spindle drilling and tapping machine	877
Rockford shows three interesting machines	574
Schatz automatic grip-feed press	456
Schauer Ideal 1/4-in. standard duty drill	587
Self-contained motorized speed reducers	838
Self-oiling drilling and tapping machine	570
Simplified belt conveyor carrier	698
Speedmatic saw, type K-9	734
Static balancing machine	839
Straight-side power press	135
Style KL geometric self-opening die heads	313
Super-Johnson clutch for automotive machinery	569
Sykes gear generator for cluster work	577
Thomson-Gibb No. 2 automatic press welder	581
Thor high-frequency electric tools	581
Thor rotary pneumatic sander	838
Threadnut automatic nut tapping machine	528
Toledo twin-gear straight column press	583
Transcribing attachment for vertical milling machine	624
Tuthill Model H series high-pressure oil pump	571
Type D Radiac cutoff machine	585
Variable-speed drive on Kent Owens Miller No. 2	571
Westcott adds new chucks to line	570
Wilson red processed arc-welding wire	493
Worthington adopts multi-v-drive belt	171
Wright-Hibbard tier-lift truck	457

Shows—See Conventions**Specifications**

World motor vehicles on Jan. 1, 1930, total 35,127,398 (map)	269
--	-----

Standardization

American standard submitted for Woodruff keys	873
Standardized trade customs	199

T**Taxation—See Legislation****Testing—See Inspection****Tires—See Rubber****Tools—Portable**

Brill portable multi-tool	26
Hercules portable air grinder	27
Hercules right-angle nut driver	63

Tools—Small

Bonney tappet wrench	275
Bunting lead hammer	662
Cincinnati universal press brake gages	62
Hercules heavy-duty drill and reamer	663
Jarvis screw driver and nut setter	574
Kearney & Trecker face-milling cutters	589
Lidex head is internally tripped	62
O.K. hand line reaming bar	580
Portable air wire brush and grinder	99
Successful use of cemented tungsten carbide	544

Tractors

Case has new tractor	539
Caterpillar to begin plant removal	321

Traffic

Compulsory liability insurance law	267
Reprints highway safety codes	921
Traffic congestion is far off, says engineer	847

Transmissions

Double reduction driving unit interchangeable	658
Four-speed transmission by Zeppelin Works	274
Front drive designed to permit short wheelbase	272
New Maybach five-speed gearbox has four silent speeds	831
Synchromesh transmission a new Muncie development	942
Transmissions must have reaction on frame	90
Wichita transmission power take-off	130

Truck Descriptions

All-steel truck cab has streamlined cowl	837
Autocar has new model	810
Chevrolet announces 1 1/2-ton truck	308
Clydesdale to resume truck production	504
Day-Elder six-cylinder trucks comprise 11 models	379
Dodge offers complete line of commercial vehicles	302
Dodge shows house-to-house delivery truck	670
Federal has new model	504
Federal truck adds six-wheel models to line	374

Ford announces dump bodies	279	Railroads plan short-haul service	852
FWD offers super-seven trucks	227	Railroad profits from truck division ..	843
G.M. truck reduces prices	918	Reo offers improved trucks at lower price	845
Gramm adds three models	504	S.P.A. adds half-tonner	740
Gramm adds two models	778	S.P.A. Corp. offers first truck units..	166
Gramm adds 3-ton six-cylinder truck..	599	Stewart has new model	504
Grass-Premier has new truck models..	670	Unique equipment developed for sanitation	729
Hug has new unit	504	White presents six-wheel line with four models	803
Hug adds model	816		
LaFrance - Republic introduces two models	816		
Maccar adds 5-tonner	813		
Mack announces AK heavy truck	598		
New Relay truck has carload capacity at high speeds	941		
New Republic 4-ton replaces old models ..	631		

U

Used Cars—See Marketing, Financing

W

Welding and Cutting	
Elkaloy electrode for spot welding ...	876
Federal adds seam welders	578
Oxy-acetylene welding of strip chromium alloys	832
Rear axle housings automatically arc welded	27
Semi-automatic welder adaptable for shielded arc	571
Thomson-Gibb No. 4 HDA seam welder ..	577
Torchweld gasoline torch cutting	586
Weldite fillet putty for welded parts..	382
Wheels	
Firestone type "R" rim	699

Index of COMPANIES Mentioned in Automotive Industries

A		Black & Decker Mfg. Co.—Independent spindle buffers	768	Carlyle Johnson Machine Co.—Super-Johnson clutch for automotive machinery	569
AC Spark Plug Co.—Develops intake silencer device	88	Multiple-speed swing grinder	876	J. I. Case Company—Gittins heads Case board	281
Intake muffler on new Buicks	160	Black & Decker grinder for cemented tungsten carbide	950	Case has new tractor	539
AC sales equal last year's	849	Bliss, E. W., Co.—Improved single-crank toggle presses	202	Centrifix Corp.—Centrifix straight-thru type compressed air cleaner	581
AC metric spark plugs	874	Bliss double-crank press with adjustable bed	456	Checker Cab Mfg. Co.—Declared regular quarterly dividend	739
Ackerman-Blaesser-Fezzey, Inc.—Heavy-duty window regulator	625	Improved Bliss single-rank toggle presses	579	Checker reduces dividend	882
Adams Axle Co., Inc.—Bought by Henninger	139	New Bliss trimmer	769	Chevrolet Motor Co.—Names Sneathen..	208
Ajax Rubber Co.—Ajax omits interest..	849	Bliss long-stroke reducing press	874	Price-cut stirs industry	241
Alpha Instrument Co.—Alpha micrometer rolling parallel ruler	581	J. G. Blount Co.—Blount wet-tool grinder	312	Chevrolet names Holler	462
Aluminum Company of America—Aluminum research program extended	13	Bohn Aluminum & Brass Corp.—Bohn connecting rod cap	891	Chevrolet shifts four	496
American Austin Motor Car Co.—All-metal construction in building Austin bodies	452	Bonney Forge & Tool Works—Bonney tappet wrench	275	Chevrolet purchases Martin-Parry plant	595
American Bosch Magneto Co.—Bosch companies pooling of efforts	703	Booshardt Steel Co.—Seeks to form company	498	Chevrolet in ring with nine new models	690
Bosch merger plans set	773	Borden Co. — Bolt-die heads Beaver ratchet	382	8 per cent of used cars accounts for 70 per cent of trade-in losses	727
American Bosch spark plug with Masilite insulator	768	Borg & Beck Co.—Clutch with vibration damper	312	New Chevrolet prices reduced	742
American Engineering Co.—American three-hook lo-hed body hoist	574	Bradford Machine Tool Co.—Bradford unit-built special installation	580	See Normal Jan. 1 at St. Louis plant.	807
American Forging & Socket Co.—American forging declares	598	Bradford automatic drill head	698	Chevrolet exceeds November, 1929 ..	841
American Foundry Equip. Co.—Electric heater	275	Bragg-Kliesrath Corp.—Kliesrath is winner of speedboat cup	278	Chevrolet establishes truck body assembly	882
American Mathis, Inc.—Mathis names heads for American unit	385	Brandenburg Bros.—Reid automatic valve clearance adjuster	716	Chevrolet begins truck body plan ...	915
Amplex Mfg. Co.—Subsidiary of Chrysler Corp.	65	Breeze Corp.—Breeze spark plug shield.	913	Chevrolet moves to stabilize output ...	923
Argus Motoren Gesellschaft of Berlin—Develops four-cylinder aero engine..	94	Briggs Mfg. Co.—Reports profit	144	Chicago Pneumatic Tool Co.—No. 44 Little Giant pneumatic drills	528
Arrow Head Steel Products Co.—Uniform heating necessary in nitriding	752	J. G. Brill Co.—Portable multi-tool	26	Hicycle portable electric tools	576
Asbestos Textile Co.—Export firm formed	283	British Austin Motor Co.—British Austin effects body and chassis changes..	368	Declares dividend of 87½ cents	739
Auburn Automobile Co.—Auburn reports 97 cents share profit	704	Austin to pay 60 per cent	459	Chicago Rawhide Mfg. Co.—"Perfect" oil and grease retainer	875
American Austin Car Co., Inc.—Austin adds workers	809	Brockway Motor Truck Corp.—Brockway earnings reach \$212,336	247	Chrysler Corp.—Forms subsidiary	65
Austin roadster on line	882	Brown Instrument Co.—Brown indicating pyrometer controller	624	Appoints Hamilton	66
Autocar Company—Autocar has new model	810	Brown & Sharpe Mfg. Co.—High-speed automatic screw machines	26	Rockelman appointed president of Plymouth Corp.	67
Autocar books \$1,000,000 order from municipality	883	Standard index bases	98	Appoints Mook to head used car sales	69
Autocar at normal	919	Automatic screw machine	171	Eights replace Imperial and "77" ..	76
Automatic Nut-Thread Corp.—Threadnut automatic nut tapping machine	528	B. & S. series of fillet and radius gages	383	AC develops intake silencer device...	88
Automotive Fan & Bearing Co.—Automotive F. & B. concealed hood latch..	17	B. & S. roller feed and timing mechanism	875	Reduces price on "70" line	143
Aviation Credit Corp.—Aviation credit to continue	534	Brunner Manufacturing Co. — Brunner heavy-duty water-cooled compressor	579	Chrysler Imperial prices	251
Aztec Export Corp.—Export firm formed	283	Brunner-Winkle Aircraft Corp.—Brunner-Winkle revamped	387	"Rotor" principle is used in aeroplane	278
B		Buckeye Portable Tool Co.—Hercules portable air grinder	27	Sloan is Chrysler director	281
Baird Machine Co.—Baird horizontal six-spindle lathe	529	Hercules right-angle nut driver	63	Mook joins Chrysler	282
Baker Wheel & Rim Co.—Baker wheel ball bearing tie-rod for steering gears	370	Portable air wire brush and grinder..	99	New Plymouth roadster	282
Barber-Colman Co.—High-production hob	204	Hercules heavy-duty drill and reamer	663	Dodge offers complete line of commercial vehicles	302
Barnes Drill Co.—Barnes all-gear drill-ing and tapping machine	570	Budd Wheel Co.—Budd units report	704	Chrysler names Rupprecht	318
Self-oiling drilling and tapping machine	570	Refinements in Budd stamping practice	900	Chrysler closes its German plant ..	495
Barrett-Cravens Co.—Barrett multiple-lift truck	313	Budd Wheel declares	917	Chrysler ships 15,736	498
Bendix Aviation Corp.—Bendix Corp. earns three cents a share	740	Buick Motor Co.—1931 line	114	Chrysler bus sales shifted	500
Bendix-Cowdrey Brake Tester, Inc.—Intermediate size Cowdrey brake tester	572	Intake muffler on new Buicks	160	Chrysler holds sales schools	704
Bendix Service Corp. (subsidiary of Bendix Aviation Corp.)—Bendix starts service chain	813	Buick ships 7177 units	845	Chrysler increases schedules	743
Besly & Co., Charles H.—Besly No. 49-53 in wet and dry grinder	568	The Bunting Brass & Bronze Co.—Bunting lead hammer	662	Chrysler issues statement	880
Bethlehem Steel Co.—Mechanical properties of Bethalon steel	198	Burgess-Parr Co.—Electric bearing tester	492	Chrysler ships 7992	888
Bijur Lubricating Corp.—Bijur lubrication system is now automatic	759	Burgess intake silencer	912	Cincinnati Ball Crank Co.—Ballcrank compensating concentric tie-rod ...	876
		Burgess exhaust muffler	951	Cincinnati Grinders, Inc.—Feed-matic thru-feed and in-feed hoppers	531
		Bury Compressor Co.—Bury class 2V motor-driven air compressor	585	Cincinnati Shaper Co.—Cincinnati shaper 18-ft. press brake	567
		C		Cincinnati shaker 300-ton all-steel press	578
		Cadillac Motor Car Co.—To market 12-cylinder car	175	Clark Trucktractor Co.—Clark stock chaser	662
		Strickland leaves	176	Clipper Belt Lacer Co.—Clipper speed lacer	568
		Cadillac appoints Thompson	281	Columbus Auto Parts Co.—Autocentric tie-rod	838
		Cadillac V-12 completes range	292	Commercial Credit Co.—Commercial earns 53 cents	704
		Cadillac September registrations 3496.	599	Comtor Company—Model MBH comtor-gage, high-gear type	578
		A. C. Campbell, Inc.—Nibbling machine.	492	Consolidated Machine Tool Corp.—Newton unit head miller	735
		Caproni Co. of Italy—Six 1000-hp. engines power Caproni	125	Cord Corp.—Cord Corp. plans largest air line	953

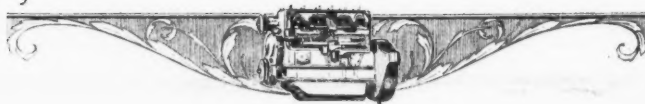
76	The Crossley Motor Co.—(England)		Evans Appliance Company—Evans devel-		General Motors Corp.—Net profits drop..	137	
78	Crossley introduces six-wheel chas-		ops rotary fuel pump	275	Shifts export division men	141	
82	Cincinnati Shaper Co.—Universal press	496	Ex-Cell-O Aircraft & Tool Corp.—Com-		Gains net working capital	213	
86	Clark Airplane Corp. formed	311	plete plant consolidation	316	General Motors men are shifted	318	
90	Clark Tractor Co.—Power-driven	62	Ex-Cell-O precision diamond boring		G.M. shares sold	459	
94	Clark Tractor Co.—Power-driven	311	machine	588	Glancy joins Detroit staff of G.M.C. ..	598	
98	Clark Tractor Co.—Power-driven	311	Machine drills simultaneously holes of		General Motors dealers sell 75,895 autos		
102	Clark Tractor Co.—Power-driven	311	13 sizes	859	in September	628	
106	Clydesdale Truck Co.—Clydesdale to re-	202			General Motors earns \$2.85 on com-		
110	sume truck production	504			mon stock	705	
114	Coats Machine Tool Co.—Elasticometer				General Motors declares dividend	741	
118	spring testing machine	624			G.M. buys Electro-Motive	742	
122	Cole Battery Corp.—Purchased by				General Motors dealers reduce car in-		
126	Reliance	137			ventories	776	
130	Continental Motors Corp.—Continental				G.M. truck reduces prices	918	
134	board chairman, R. W. Judson, re-	496			General Motors sales exceed output		
138	sigs				again	921	
142	Crown Rheostat & Supply Co.—Rubber-				Sloan points out need for courage ..	953	
146	covered plating racks	135					
150	Crown spiral gear drive for burnish-				General Spring Bumper Corp.—Polishing		
154	ing machines	531			wheel set-up machine	26	
158	Cuno Engineering Corp.—Cuno electric				General Tire & Rubber Co.—General		
162	windshield warmer	699			Tire plans increased output	598	
166	Curtiss Aeroplane & Motor Co.—Glenn H.				General Tire earns and pays dividend.	885	
170	Curtiss dies in Buffalo	137					
174	Curtiss tests XO-1G	706			The Geometric Tool Co.—Style KL geo-		
178	Delivers special plane	743			metric self-opening die heads	313	
182	Curtiss to revise Challenger	918			German Ford Motor Co.—Ford plant at		
186	Curtiss Pneumatic Machinery Co.—Curtis				Cologne includes manufactures		
190	air hoist	570			Gisholt Machine Co.—Gisholt universal		
194	Curtiss-Wright Export Corp.—Completes				ram-type turret lathe	572	
198	Chilean plant	707			Gisholt hydraulically equalized chuck		
202	Cutler-Hammer, Inc.—Develops three-				jaws	951	
206	position pilot switch	202			Gits Bros. Mfg. Co.—Gits precision oil		
210	Cutler-Hammer sales steady	595			seals	950	
214					Gleason Works—Gleason Works 3-in.		
218					bevel-gear testing machine	349	
222					Gleason spur-gear testing machine ..	583	
226					Gleason testing and lapping machine ..	587	
230					Gleason No. 13 Universal gear testing		
234					machine	950	
238					B. F. Goodrich Co.—Goodrich listing ap-		
242					proved	599	
246					Goodrich sales increase	600	
250					Goodrich declared regular quarterly		
254					dividend	739	
258					To manufacture new tube	843	
262					Goodyear Corp.—Worthington adopts		
266					multi-v-drive belt	171	
270					Tire plants recall men	884	
274					Gadsden plant to step up	918	
278					Goss & DeLeeuw Machine Co.—Tool re-		
282					volving automatic chucking machine		
286					171		
290					Graham-Paige Motors Corp.—Announces		
294					two-passenger business coupe	104	
298					Reports loss	173	
302					Spark plug designed to eliminate pre-		
306					ignition	377	
310					Graham denies merger plans	468	
314					Graham sales up	597	
318					Gramm Motors, Inc.—Gramm adds three		
322					models	504	
326					Gramm adds 3-ton six-cylinder truck.	599	
330					Gramm adds two models	778	
334					Greaves Machine Tool Co.—Brake drum		
338					flywheel turning lathe	170	
342					Grob Bros.—Grob continuous-type filing		
346					machine	348	
350							
354							
358							
362							
366							
370							
374							
378							
382							
386							
390							
394							
398							
402							
406							
410							
414							
418							
422							
426							
430							
434							
438							
442							
446							
450							
454							
458							
462							
466							
470							
474							
478							
482							
486							
490							
494							
498							
502							
506							
510							
514							
518							
522							
526							
530							
534							
538							
542							
546							
550							
554							
558							
562							
566							
570							
574							
578							
582							
586							
590							
594							
598							
602							
606							
610							
614							
618							
622							
626							
630							
634							
638							
642							
646							
650							
654							
658							
662							
666							
670							
674							
678							
682							
686							
690							
694							
698							
702							
706							
710							
714							
718							
722							
726							
730							
734							
738							
742							
746							
750							
754							
758							
762							
766							
770							
774							
778							
782							
786							
790							
794							
798							
802							
806							
810							
814							
818							
822							
826							
830							
834							
838							
842							
846							
850							
854							
858							
862							
866							
870							
874							
878							
882							
886							
890							
894							
898							
902							
906							
910							
914							
918							
922							
926							
930							
934							
938							
942							
946							
950							
954							
958							
962							
966							
970							
974							
978							
982							
986							
990							
994							
998							
1002							
1006							
1010							
1014							
1018							
1022							
1026							
1030							
1034							
1038							
1042							
1046							
1050							
1054							
1058							
1062							
1066							
1070							
1074							
1078							
1082							
1086							
1090							
1094							
1098							
1102							
1106							
1110							
1114							
1118							
1122							
1126							
1130							
1134							
1138							
1142							
1146							
1150							
1154							
1158							
1162							
1166							
1170							
1174							
1178							
1182							
1186							
1190							
1194							
1198							
1202							

- Hisey improves heavy duty stand grinders 663
- Holmes Engineering Co.—Arthur S. Holmes dies 284
- Houdaille-Hershey Corp.—Muskegon merger operative now 842
- Hudson Motor Car Co.—Earns 67c a share 137
- Price cuts stir industry (Hudson-Essex) 241
- McAneeny resumes Hudson management 632
- Hudson on 5-day schedule 701
- Hudson prices lowest in car's long history 777
- More power in new Hudson and Essex lines 798
- Hudson prices announced 810
- Hudson increases schedule 842
- Hudson adds workers 917
- The Hug Company—Hug has new unit 504
- Hunt-Spiller Mfg. Corp.—Hunt-Spiller develops gun-iron brake drum 662
- Hupp Motor Car Corp.—Earnings drop in second quarter 137
- Hupp names Eldredge 462
- Hupp passes dividend 534
- Hurley-Townsend Corp.—Hurley-Townsend to make cooled plug 282
- I**
- Independent Pneumatic Tool Co.—Thor high frequency electric tools 581
- Thor rotary pneumatic sander 838
- International Nickel Co.—High heat expansion cast iron developed for cyl. linings 656
- Iowa Manufacturing Co.—Building plant addition 537
- J**
- Jaeger Watch Co., Inc.—Jaeger announces two chronofite models 529
- Edwin M. Jennings Co.—Axle end facilitates removal of wheel 658
- Jones & Lamson Machine Co.—Improved automatic screw chasing attachment 382
- Jordan Motor Car Co.—Jordan stockholders asked to deposit 535
- Jordan reports loss 843
- Jordan plan assured 917
- Juhasz Carburetor Corp.—Juhasz has new carburetor 957
- K**
- Kane, Peter W., Inventor—Kane pneumatic-strut airplane landing gear 457
- Kari-Keen Aircraft Corp.—Kari-Keen is purchased 808
- Kearney & Trecker Corp.—Low-cost demand met by improvement in milling methods 334
- Kearney & Trecker face-milling cutters 589
- Kelsey-Hayes Wheel Corp.—Kelsey estimates earnings 739
- Kemp-Smith Manufacturing Co.—Kemp-Smith improves vertical maximiller milling machines 586
- Kent-Owens Machine Co.—Variable speed drive on Kent-Owens miller 312
- Variable speed drive on Kent-Owens Miller No. 2 571
- Kinner Airplane & Motor Corp.—Kinner reports loss 773
- Kirk & Blum Mfg. Co.—All-steel truck cab has streamlined cowl 837
- Kissel Motor Car Co.—Kissel receiver-ship on friendly basis 465
- Kurth & Knapp Mfg. Co.—Kurth & Knapp hot air draw and tempering furnace 585
- L**
- Lamson & Sessions Co.—Diamond neck auto bolt 183
- Landis Machine Co.—Landex head is internally tripped 62
- Bolt factory threader improved 204
- Landis pipe threading and cutting machine 567
- Langlier Mfg. Co.—Langlier horizontal duplex drilling machine 573
- R. K. LeBlond Machine Tool Co.—LeBlond No. 5 automatic pin finish-turning lathe 582
- Leeds & Northrup Co.—Humidity recorder 99
- Hump method for heat-treating 159
- E. L. Leitz Company—Leitz micro-metallograph 579
- Lever Motor Corp.—Merge with Elcar Motor Co. 65
- Lewis-Shepard Co.—Power stacker 912
- Lincoln Electric Co.—Rear axle housings automatically arc welded 27
- Lincoln Motor Co.—Lincoln presents entirely new line 808
- Lincoln sales increase 850
- Generator and starter are separate units on Lincoln 866
- Lincoln adds employees 885
- Lincoln prices are announced 918
- Lincoln totally inclosed fan-cooled induction motor 951
- Link-Belt Co.—Promal drive and conveyor chain 63
- Logan Gear Co.—Logan has new axle 538
- New Logangear front axle lighter than forged type 689
- Long Manufacturing Co.—New Long clutch for trucks 662
- Lycoming Mfg. Co.—Model UE marine engine 193
- Lycoming develops 780
- Mc**
- McCord Radiator & Mfg. Co.—McCord reports profit 740
- M**
- Maccar Truck Co.—Maccar adds five tonner 813
- Mack Trucks, Inc.—Mack has salon bus 500
- Mack announces AK heavy truck 598
- Mack reduces dividend 881
- Madison-Kipp Corp.—Madison-Kipp die-casting machine 804
- Madison-Kipp air grinders 838
- Maize Corp.—Automotive leaders form new company 392
- Marmon Motor Car Co.—Noland appointed assistant general manager 66
- Marmon shipments gain 539
- 16-cylinder Marmon shown at Chicago salon 742
- Marmon signs for C.I.T. wholesale finance plan 807
- Massey-Harris Co.—Massey plant steps up 536
- Master Electric Co.—Warriner joins Master 281
- Mathews Conveyor Co.—Mathews heavy-duty roller conveyor 698
- Mathis Automobile Co.—Newest product 214
- Mathis ready Jan. 1; show space held 807
- Meriam Company—Flow meter for radiator testing 135
- Michigan Steel Corp.—Mich. Steel considers merger 881
- Modern Diamond Tool Co.—Diamond lapping machine 204
- Moline Tool Co.—Hydraulic lapper and honing machine 170
- Moller Motors, Inc.—Martin Midget car production begins 879
- Moller gets taxicab order 922
- Monarch Machine Tool Co.—Monarch model "H" lathe has special head-stock 571
- Model AA Monarch high speed lathe 734
- Moon Motor Car Co.—F. W. Ayres new vice-president of Moon 281
- Moon Motor Car Co. gets temporary receiver 773
- Morris Motors, Ltd.—Morris announces cheaper Minor 956
- Moto Meter Corp.—Develops hydraulic shock absorber 157
- Ottom leaves Moto Meter 281
- Motor Products Corp.—Motor Products declares 843
- Motor Wheel Corp.—Earns \$1.15 a share 138
- Motor Wheel declares 740
- Mullins Mfg. Co.—Mullins employs more 919
- Mummert-Dixon Co.—Compound spot-facing tool 205
- Muncie Products Div. of Gen. Motors Corp.—Synchromesh transmission a new Muncie development 942
- Murray Body Corp. of America—Offset flash welding die solves problem 748
- Murray Body adds to schedules 812
- Murray Rubber Co.—Murray Rubber gets receiver 808
- Murray Rubber cuts expenses 960
- Murchee Machine & Tool Co.—Murchee precision threading machine 569
- Muskegon Motor Specialties Co.—Muskegon merger operative now 842
- N**
- Nash Motor Co.—Inspection saves replacement costs 10
- Uses ingenious inspection plan 86
- Nash offers four distinctive engine designs 524
- Nash earnings are 65 cents a share 535
- Nash advertises delivered prices 777
- National Acme Co.—Namco stationary die 735
- National Automatic Tool Co.—Natco single-spindle driller 62
- Natco two-way horizontal hydraulic machine 569
- Natco horizontal hydraulic machine 586
- National Motors Mfg. Co.—Day-Elder six-cylinder trucks comprise eleven models 379
- National Standard Co.—National Standard earns \$2.55 704
- Naval Aircraft Factory—Std. test basis for anti-knock rating 260
- New Era Motors Co.—New Era files petition 852
- New Process Gear Co., Inc.—Bought by Henninger 139
- Niagara Machine & Tool Works—Slip roll for forming sheet metal 135
- Niagara power-driven combination machine 699
- O**
- O. K. Tool Co., Inc.—O. K. hand line reaming bar 580
- Oakland Motor Car Co.—Factory overhead reduced by budget control 127
- Price cuts stir industry 241
- Oakland shifts three 496
- Reuter heads Oakland 598
- Ohmer Fare Register Co.—Ohmer offers new taxi register 769
- The Oilgear Co.—Oilgear twin twelve broaching machine 572
- Oilgear horizontal broaching machine 768
- Charles K. Olberg Co.—Olberg forms own company 496
- Olds Motor Works—Promotes Preston 208
- Opel Motor Works (Germany)—Thompson gets Opel order 841
- P**
- Packard Motor Car Co.—Major lines retained, minor changes in 1930 Packards 332
- Packard shifts model 500
- Packard Cable Co. (Canada)—Packard Cable installing plant 888
- Pangborn Corp.—Pangborn rubber sandblast helmet 912
- Peerless Motor Car Corp.—Hydraulic spring press 6
- Young is appointed Peerless sales head 283
- Peerless refines new 1931 models 463
- Peerless adds workers 881
- De Luxe master with six body styles added to Peerless 904
- Perfect Circle Co.—Tungtite compression rings 203
- Oil-regulating ring 275
- Pheasant Aircraft Corp.—Dayton and Pheasant companies in merger 285
- Pierce-Arrow Motor Car Co.—Inspection fixture certifies accuracy 823
- Pitcairn Aircraft, Inc.—Autogiro production begins 808
- Pioneer Instrument Co.—New aero compass 876
- Plymouth Motor Corp.—Rockelman appointed president 67
- Plymouth plans radio programs 597
- Flexible production system holds Plymouth inventory 713
- Plymouth includes independent shops 778
- Porter-Cable Hutchinson Machine Corp.—Offers Syracuse belt sander 492
- Speedmatic saw type K-9 734
- Potter & Johnston Machine Co.—Automatic tooling for lathes 345
- P. & J. Ekonomatic nut machine 588
- Powell Muffler Co.—Powell pure air heaters 698
- Pratt & Whitney Co.—Production line 188
- P. & W. buys gage works 278
- Pratt & Whitney hydraulic gear grinder 584
- Production Equipment Co.—Heavy duty-wide grinders 577
- Self-contained motorized speed reducers 838
- Putnam Machine Works—Putnam rod boring and drilling machine 530
- Q**
- The Quigley Co., Inc.—Quigley "Q-Seal" expansive compound 529
- R**
- Raybestos-Manhattan, Inc.—Raybestos reports earnings 813
- Reed-Prentice Corp.—Multiple turning machine 874
- Reliance Battery Products Co.—Purchases Cole 137
- Reliance Manufacturing Co.—Reliance earns \$2.53 a share 706
- Reo Motor Car Co.—Honors Mrs. Holt 70
- Rigid production economies attained in building Reo Royale 8 512
- Lamont is promoted 598
- Collins to distribute Reos in Chicago area 629

Index of AUTHORS Contributing to Automotive Industries

838	B	Baker, Harold M. —Steel mills in Detroit base sales on time savings.....	362	C	James W. Cottrell Army to buy motor equipment soon..	637	Aviation industry shows open mind on changes	340
530		Baker, M. Warren —			New relay truck has carload capacity at high speeds	940	Buick's 1931 line	114
		Blanchard, Don —Use of more finance paper expected in '31	782		Crofoot, A. Burdet Financing of wholesale car sales increases	145	Cadillac V-12 completes range	292
529		Bourdon, M. W. Compulsory liability insurance law in England	267		Foreign plants account for American sales abroad	326	Chevrolet in ring with nine new models	690
		British offer 21 models with 4-speed silent trans.	601		High compression engine	898	Chrysler eights replace Imperial and "77"	77
813		Changes at Olympia show are of smaller details	649		Croll, Hugh —Taxes hamper Australian dealers	439	Crankshaft machining requires diversity of operations	609
874		British building automotive heavy oil engine	860		Australia enters leanest period	477	De Vaux six—a new car for the lower price field	899
137		Bradley, W. F. Few French models are new at Paris automobile salon	527		American cars in Australia	646	8 per cent of used cars accounts for 70 per cent of trade-in losses	727
706		Majority of new features at Paris salon	619		Curtis, Frank W. —Low-cost demand met by improvements in milling methods	334	Hindman tolerance system on interchangeability of parts	232
512		Motor cycles follow automobile trend at Paris show	766	D			Nash inspection saves replacement costs	10
598		7 nations represented at French aeronautical exhib.	933		Daley, William L. —Hoover's census of distribution	372	Nash offers four distinctive engine designs	524
629					Davidson, M. W. —Linear inertia force of connecting rod	479	Dumas, Paul —Fewer pit stops in 1930 Indianapolis race	7
					Denham, Athel F. All-metal construction in building Austin bodies	452	E	
							Eckhardt, Karl A. —Diamond neck auto bolt	183

- G**
- Griffin, C. E.—Annual show plays important part in industry's economic stability 309
- Geschelin, Joseph
 Attainment of uniform color standards 824
 Economic principles injected into annual prod. meeting 605
 Flexible production system holds Plymouth inventory 713
 Oakland's factory overhead reduced 127
 Offset flash welding die solves problem Pratt & Whitney production line 183
 Refinements in Budd stamping practice 900
 Regularization of output leads other topics 856
 Press operations of Ford rustless steel radiator shells 44
 Research needed for rustless steel 143
 Rigid production economies attained in building Reo Royale 8 512
 Successful use of cemented tungsten carbide 544
 Synchronizing materials to assembly line 482
 Trim shop is automatically scheduled 789
- H**
- Heinze, Edwin P. A.
 Siemens radial air-cooled engine 4
 Argus develops 4-cylinder aero engine 94
 New Maybach 5-speed gearbox has 4 silent speeds 831
 Auxiliary wing stabilizes Focke-Wulf plane 916*
- Hindman, W. L.—Hindman tolerance system on interchangeability of parts 232
- Heldt, P. M.
 Coiled versus leaf springs 692
 Engine performance at high altitudes by Bureau of Standards 256
 Fuel and lubricant research extended 298
 High-speed Diesel engine development 352
 Independent suspension on crank axles 755
 Practice of calculating gear tooth strength erroneous 568
 Steering head design for independent springing 436
 Swinging axle type of independent springing 640
- Transmissions must have reaction on frame 90
 Unsprung weight is greatly reduced .. 472
- Henry, Thomas P.—Speed with safety... 55
- Heinze, Edwin P. A.—High-speed Diesel engine development 352
- Hirsch, William Crawford—1930 closing with metal markets at subnormal level 925
- Hook, George T.—Truck industry fights onslaught of depression 38
- Hosking, Herbert
 Evolution theory applies to radiator shells 328
 Heightened insular competition for American cars 487
 Highway engineers see all in whirlwind tour of South 723
 More accurate and sensitive statistics. 889
- K**
- Keller, K. T.—Future production activity forming in economic mold 541
- Kelly, H. H.—An intelligent program for each foreign territory 928
- Kishline, F. F.—Spark plug designed to eliminate preignition 377
- M**
- Maloney, T. J.—Survey reveals variety of painting methods 762
- Matthews, Robertson—Oil engine terminology 375
- Miller, W. B.—Oxy-acetylene welding of strip chromium alloys 832
- Moskovics, Frederick E.—Slide-rule is scepter in industry today 676
 If I were an engineer today 717
 If I were an engineer today 757
 If I were an engineer today 795
- N**
- Neil, Edmund B.
 Fuel injection research extended 15
 Oil spray research suggests Diesel nozzle factors 56
 Statistical method for automotive tests 518
 Improvement in electroplating quality needed 561
 Automotive production as a general business index 835
- Passenger car production gages industry's future 853
 Production trend indicates an improvement 896
- P**
- Patterson, A. H.
 Flexible production system holds Plymouth inventory 713
- Peat, Leslie
 All indications point to larger auto. trade 745
 Automobile business trend parallels gen. conditions 673
 Cash fortifies most companies approaching 1931 817
 Dealers' position is strengthened 469
 Dealers thwart waste with junking plan 253
 Export leaders map world trade effort 289
 Industry awaits Durant reorganization 219
 Manufacturers offering doubled power Tariff commission to weigh inequities 74
- Player, Sydney—Wear is reduced by machine lapped parts 907
- Prescott, Ray B.—Seasonal variation in sales narrows in twenty years 24
 Industry has begun a term of stability 229
- Q**
- Quisenberry, George E.—Prospect of better car sales in South America 109
- R**
- Rubenz, Sandor D.—Compression pressure induces engine knock 21
 Std. test basis for anti-knock rating.. 260
- S**
- Shidle, Norman G.
 The crowds are waiting—show prospects are bright 709
 Let's not be afraid of ghosts! 361
 Parts & Accessory group earnings 181
 Pass. car makers pile up earnings in six mos. 217
 Quantity buying to fill definite needs. 505
- Smith, Hinsdale—Front drive designed to permit short wheelbase 272
- Schweitzer, Dr. P. H.—Specialization will help to overcome production cost.... 820
- T**
- Trowel, F. C.—Elimination of gear noises 375



UNIVERSITY OF MICHIGAN
 BUSINESS OFFICE

FEB 4 8 10 AM 1933

RECEIVED-1

853
896

713

745

673

817

469

253

239

219

2

74

907

24

229

109

21

260

709

361

181

217

505

272

820

375